DIET

in relation to

AGE & ACTIVITY

SIR HENRY THOMPSON

BY THE SAME AUTHOR

In Large Crown 8vo, cloth gilt, 3s. 6d. net.

FOOD AND FEEDING

Extract from

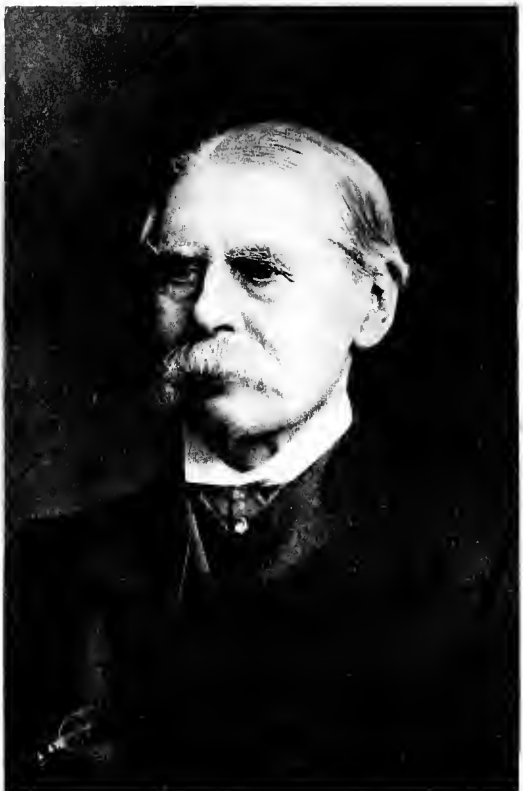
"POT-POURRI FROM A SURREY GARDEN"

"This is a much-to-be-commended and really instructive book. It goes into first principles, both of health and of the chemical properties of food, and would be far more useful to take to wild places or distant lands than any ordinary Cookery Book. The commonplace of living is taken up by a man of great talent and learning. Everybody who has not got it ought to buy it—and study it, too."

DIET

IN RELATION TO

AGE & ACTIVITY



From a Photograph by *Lafayette*

Henry S. Thompson

DIET

IN RELATION TO

AGE & ACTIVITY

WITH HINTS
CONCERNING HABITS CONDUCIVE TO

LONGEVITY

BY

SIR HENRY THOMPSON, BART.
F.R.C.S., M.B., LOND., ETC.

THIRTIETH THOUSAND

LONDON
FREDERICK WARNE AND CO.
AND NEW YORK

PRINTED BY
WILLIAM CLOWES AND SONS, LIMITED,
LONDON AND BECCLES.

PREFACE

THE recommendation and advice respecting diet and habits which this little work contains were the result of a very large experience; and an extensive practice during at least twenty-five or thirty years at the date of its first publication compelled the author to regard them as much needed by men of all ranks and occupations among the well-to-do classes of society who had reached, or perhaps had passed, the prime of life, whether engaged in business or professional pursuits or in varied public services, etc.

It also occurred to him that he might be able to offer many useful hints concerning other more or less allied matters relating to the habits of those who are advancing in years, and who desire still to maintain fair health and activity without which prolonged life is scarcely to be regarded as a boon.

The work is divided into two parts, Part I. relating to human life up to the sixth and seventh decades, Part II. being specially applicable to the eighth and ninth decades.

CONTENTS

PART I

CHAPTER I

CHAPTER II

PART II

CHAPTER I

CHAPTER II

APPENDIX

PART I

DIET

IN RELATION TO

AGE & ACTIVITY

CHAPTER I

Alcohol and evils of improper feeding—Cause of chronic disease in advancing years—Vegetarianism—Food in early years—Results of over-feeding in middle life—*Pâté de foie gras* and its lessons—Reduced activity, less nutriment required—Advertised nostrums—Nutritious drink—Artificial teeth.

ENOUGH, and more than enough perhaps, has been uttered concerning the prejudicial effects on the body of habitually using alcoholic beverages. It is rare now to find any one, well acquainted with human physiology, and capable of observing and appreciating the ordinary wants and usages of life around him, who does not believe

Needless to say much about evils of alcohol.

that, with few exceptions, men and women are healthier and stronger, physically, intellectually, and morally, without such drinks than with them. And confessedly there is little or nothing new to be said respecting a conclusion which has been so thoroughly investigated, discussed, and tested by experience, as this. It is useless and indeed impolitic, in the well-intentioned efforts to arouse public attention to the subject, to make exaggerated statements in relation thereto. But the important truth has still to be preached, repeated, and freshly illustrated, when possible, in every quarter of society, because a very natural bias to self-indulgence is always present to obscure men's views of those things which gratify it. While, in addition to this, an exceedingly clever commercial interest, of enormous influence and proportions, never ceases to vaunt its power to provide us with "the soundest," "purest," and—most to be suspected of all — with even "medically certified" forms of spirit, wine,

Value of alcoholic drinks universally asserted by dealers.

and beer; a suggestion that these alcoholic products are specially adapted to the requirements of some physiological law supposed to demand their employment, and thus insinuating the semblance of a proof that they are generally valuable, or at least harmless, as an accompaniment of food at our daily meals.

Evils of improper feeding.

It is not, however, with the evils of "drink" that I propose to deal here: they are thus alluded to because, in making a few observations on the kindred subject of food, I desire to commence with a remark on the comparison, so far as that is possible, between the deleterious effects on the body of erroneous views and practice in regard to drinking, and in regard to eating, respectively.

Such errors in diet, etc., equal to evils of alcohol.

The careful sifting of facts which continually came before me, compelled me to accept the conclusion that as much mischief in the form of actual disease, of impaired vigour, and of shortened life, accrues to civilized man, so far as I have

observed in our own country and throughout almost every part of Europe, from erroneous habits in eating, as from the habitual use of alcoholic drink, considerable as I know the evil of that to be. I am not sure that a similar comparison might not be made between the respective influence of those agencies in regard to moral evil also; but I have no desire to indulge in speculative assertion, and suspect that an accurate conclusion on this subject may be beyond our reach at present.

Apathy of public *re* food and its preparation.

It was the perception, during many years of opportunity to observe, of the extreme indifference manifested by the general public to any study of food, and want of acquaintance with its uses and value, together with a growing sense on my own part of the vast importance of diet to the healthy as well as to the sick, which led me some years ago to write a work on the subject of "Food and Feeding," which would seem to have been liked, to judge by the many impressions of it called for. And since that

date fresh experience has, I confess, only enhanced my estimate of the value of such knowledge, which indeed it is impossible to exaggerate, when regarding that one object of existence which I suppose all persons desire to attain, viz. an ample duration of time for enjoying the healthy exercise of bodily and mental functions. Few would, I presume, consider length of life a boon apart from the possession of fairly good health; but this latter being granted, the desire for a prolonged term of existence is natural, indeed almost universal.

I have come to the conclusion that a proportion amounting at least to more than one-half of the chronic complaints which embitter the middle and latter part of life among the middle and upper classes of the population is due to avoidable errors in diet. Further, while such disease renders so much of life, for many, disappointing, unhappy, and profitless — a term of painful endurance, for not a few

Half the chronic disease in advancing years due to dietetic errors.

it shortens life considerably. It would not be a difficult task—and its results, if displayed here, would be striking—to adduce in support of these views a numerical statement showing causes which prematurely terminate life among the classes referred to in this country, based upon the Registrar-General's reports, or by consulting the records of life-assurance experience. I have not availed myself of these materials here, although they would form an interesting theme of study for the purpose. My object is to call the attention of the public to certain facts about diet which are insufficiently known, and therefore inadequately appreciated. And I have assumed that ample warrant for the observations made here is within my reach, and can be made available if required.

Undesirable to limit the sources of our food.

At the outset of the few and brief remarks which the limited space at my disposal permits me to make, I intimate, speaking in general terms, that I have no sympathy with any dietary system which excludes the present generally

recognized sources and varieties of food. It is possible, indeed, that we may yet add considerably to those we already possess, and with advantage; but there appears to be no reason for dispensing with any one of them. When we consider how varied are the races of man, and how dissimilar are the climatic conditions which affect him, and how in each climate the occupations, the surrounding circumstances, and even the individual peculiarities of the inhabitants, largely differ, we shall be constrained to admit that any one of all the sources of food hitherto known may be made available, and may in its turn become desirable, and even essential to life.

Requirements vary greatly with climate.

To an inhabitant of the Arctic Circle, for example, a vegetarian diet would be impracticable, because the elements of it cannot be produced in that region; and were it possible to supply him with them, life could not be supported thereby. Animal food in large quantity is necessary to sustain existence in the low temperature to which

he is exposed. But I desire to oppose any scheme for circumscribing the food resources of the world, and any form of a statute of limitations to our diet, not merely because it can be proved inapplicable, as in the instance above named, under certain local and circumscribed conditions, but because I hold that the principle of limiting mankind to the use of any one class of foods among many is in itself an erroneous one. Thus, for example, while sympathizing to a large extent myself with the practice of what is called "vegetarianism" in diet, and knowing how valuable the exclusive or almost exclusive use of the products of the vegetable kingdom may be for a considerable number of the adult population of our own and of other countries in the temperate zones, and for most of that which inhabits the torrid zone, I object strongly to a dogmatic assertion that such limitation of their food is desirable for any class or body of persons whatever. Moreover, an

Vegetarianism useful to a few

but a mistaken limitation for the many.

exclusive or sectarian spirit always creeps in sooner or later, wherever an "ism" of any kind leads the way, which sooner or later brings in its train assertions barely supported by fact, the equivocal use of terms, evasion—in short, untruthfulness, unintended and unperceived by the well-meaning people who, having adopted the "ism," at last suffer quite unconsciously from obscurity of vision, and are in danger of becoming blind partisans.

Thus the term "vegetarian," as used to distinguish a peculiar diet, has no meaning whatever unless it implies that all the articles of food so comprised are to be products of the vegetable kingdom; admitting, of course, the very widest scope to that term. In that sense the vegetable kingdom may be held to embrace all the cereals, as wheat, barley, rye, oats, maize, rice, and millet; all the leguminous plants—beans, peas, and lentils; all the roots and tubers containing chiefly starch, as the potato, yam, etc.; the plants yielding sago and arrowroot; the sources

What is meant by "vegetarian."

of sugar in the cane and beet, etc.; all the garden herbs and vegetables; the nuts, and all the fruits. Then there are the olive and other plants yielding the important element of oil in great abundance. An admirable assortment, to which a few minor articles belong, not necessary to be specified here. A large display of excellent foods, which suffice to support life in certain favourable conditions, and which, moreover, may be served in varied and appetising forms. And to those who find their dietary within the limits of this list the name of vegetarian is rightly applicable. But such is by no means the practice of the self-styled vegetarians we usually meet with. Not long ago, it happened, in a crowded drawing-room, that a handsome, well-developed, and manifestly well-nourished girl—"a picture of health" and vigour—informed me with extreme satisfaction that she had been a "vegetarian" for several months, and how thoroughly that dietary system agreed with her. She

Vegetarians by no means limit themselves to vegetable products,

added that she was recommending all her friends (how natural!) to be vegetarians also, continuing, "And do you not believe I am right?" On all grounds, one could only assure her that she had the appearance of admirably illustrating the theory of her daily life, whatever that might be, adding, "But now will you tell me what your diet consists of?" As happens in nineteen cases out of twenty, my young and blooming vegetarian replied that she took an egg, and milk in quantity, besides butter, not only at breakfast, but again in the form of pudding, pastry, fritter, or cake, etc., to say nothing of cheese at each of the two subsequent meals of the day; animal food, it is unnecessary to say, of a choice, and some of it in a concentrated form. To call a person thus fed a vegetarian is a palpable error; to proclaim one's self so almost requires a stronger term to denote the departure from accuracy involved. Yet so attractive to some, possessing a moral sense not too punctilious, is the small distinction, the warrant for

but consume the choicest animal foods.

assuming superiority, obtained by becoming sectarian and partisans of a quasi-novel and somewhat questioned doctrine, that an equivocal position is accepted in order to retain the term "vegetarian" as the ensign of a party, although its members consume abundantly strong animal food, and abjure it only in its grosser forms of flesh and fish. And hence it happens, that milk, butter, eggs, and cheese are now designated in the language of "vegetarianism" by the term "animal *products*," which is simply an evasive expedient to avoid the necessity for speaking of them as animal food; which, indeed, I have heard them stoutly denied to be on high vegetarian authority!

Let us, for one moment only, regard milk, with which, on Nature's plan, we have all been fed for the first year, or thereabout, of our lives, and during which term we made a larger growth and a more important development than in any other year among the whole tale of the life which has passed, however long it may have

been. How, in any sense, can that year of plenty and expansion, which we may have been happy and fortunate enough to owe — an inextinguishable debt — to maternal love and bounty, be said to be a year of "vegetarian diet"? Will any man henceforward dare thus to distinguish the source from which he drew his early life? Unhappily, indeed, for want of wisdom, the natural ration of some infants is occasionally supplemented at an early period by the addition of vegetable matter; but the practice is almost always undesirable, and is generally paid for by a sad and premature experience of indigestion to the helpless baby. Poor baby! who, unlike its progenitors in similar circumstances, while forced to pay the penalty of erroneous feeding, has not even had the satisfaction of enjoying a delightful but naughty dish beforehand.

Is "Baby" a vegetarian?

The vegetarian restaurants now established in our larger towns supply thousands of excellent and nutritious meals at

a cheap rate, to the great advantage of their customers; but the practice of insisting with emphasis that a "vegetable diet" is supplied is wholly indefensible, since it generally contains eggs and milk, butter and cheese, in great abundance.

At the same time there may be observed in many well-known journals lists of some half-dozen recipes for dishes recommended on authority as specimens of vegetarian diet. All are savoury combinations, and every one contains eggs, butter, milk, and cheese in considerable quantity, the vegetable elements being in comparatively small proportion!

It is incumbent on the supporters of this system of mixed diet to find a term which conveys the truth, that truth being that they abjure the use, as food, of all animal flesh. The words "vegetable" and "vegetarian" have not the remotest claim to express that fact, while they have a distinct meaning of their own in daily use—namely, the obvious one of desig-

nating products of the vegetable kingdom. It may not be easy at once to construct a simple term which differentiates clearly from the true vegetarian the person who also uses various foods belonging to the animal kingdom, and who abjures only the flesh of animals. But it is high time that we should be spared the obscure language, or rather the inaccurate statement to which milk and egg consumers are committed, in assuming a title which has for centuries belonged to that not inconsiderable body of persons whose habits of life confer the right to use it. And I feel sure that our friends, *soi-disant* "vegetarians," living on a mixed diet, will see the necessity of seeking a more appropriate designation to distinguish them; if not, we must endeavour to invent one for them. Flesh abstainers, rejecters, or avoiders they may be, but vegetarians they are not.

But why should we limit by dogma or otherwise man's liberty to select his food and drink? I appreciate the reason for

abstaining from alcoholic drinks derived from benevolent motive or religious principle, and entertain for it the highest respect, although I cannot myself claim the merit of self-denial or the credit of setting an example—abstaining, like many others, solely because experience has taught that to act otherwise is manifestly to do myself an injury.

This brings me to the point which I desire to establish, namely, that the great practical rule of life in regard to human diet will not be found in enforcing limitation of the sources of food which Nature has abundantly provided. On the contrary, that rule is fulfilled in the perfect development of the art of adapting food of any and every kind to the needs of the body according to the very varied circumstances of the individual, at different ages, with different forms of activity, with different inherent personal peculiarities, and with different environments. This may read at first sight, perhaps, like a truism; but how important is the doctrine,

and how completely it is ignored in the experience of life by most people, it will be my object here to show.

I have already alluded to the fact that the young and rapidly growing infant, whose structures have to be formed on the soft and slender lines laid down before birth, whose organs have to be solidified and expanded at one and the same time, in which tissues of all kinds are formed with immense rapidity and activity, requires animal food ready prepared in the most soluble form for digestion and assimilation. Such a food is milk; and if the human supply is insufficient, we obtain in its place that of the cow, chiefly; and during the first year of life milk constitutes the best form of food. Only, let it be always sterilized —say boiled — under no circumstances to be used as it comes from the cow, *i.e.* in its raw condition. After the first year, other kinds of nourishment, mostly well-cooked wheaten flour in various shapes, begin to be added

Cow's milk the best food for children.

Never to be used by any unless boiled.

to the milk which long continues to be a staple source of nourishment to the young animal. Eggs, a still more concentrated form of similar food, follow, and gradually the dietary is enlarged by additions of various kinds, as the growing process continues through youth to puberty, when liberty arrives more or less speedily to do in all such matters "as others do."

Food in early years.

On reaching manhood, the individual, in ninety-nine cases out of a hundred, acquires the prevailing habit of his associates, and he feeds after that uniform prescription of diet which prevails, with little disposition to question its suitability to himself. A young fellow in the fulness of health, and habituated to daily active life in the open air, may, under the stimulus of appetite and of enjoyment in gratifying it, often largely exceed both in quantity and variety of food what is necessary to supply all the demands of his system, without paying a very exorbitant price for the indulgence. If the stomach is sensitive or not very powerful,

it sometimes rejects an extravagant ration of food, either at once or soon after the surfeit has been committed; but if the digestive force is considerable, the meals, habitually superabundant as they may be, are gradually absorbed, and the surplus fund of nutrient material unused is stored up in some form. When a certain amount has been thus disposed of, the capacity for storage varying greatly in different persons, an undesirable balance remains against the feeder, and in young people is mostly rectified by a "bilious attack," through the agency of which a few hours of vomiting and misery square the account. Then the same process of over-feeding recommences with renewed appetite and sensations of invigorated digestion, until in two or three, or five or six weeks, according to the ratio existing between the amount of food ingested and the habit of expending or eliminating it from the body, the recurring attack appears and again clears the system, and so on during several years of life. If the

Usual result of improper feeding then.

individual takes abundant exercise and expends much energy in the business of life, a large quantity of food can be properly disposed of. Such a person enjoys the pleasure of satisfying a healthy appetite, and doing so with ordinary prudence not only takes no harm, but consolidates the frame, and enables it to resist those manifold unseen sources of evil which are prone to affect injuriously the feeble. On the other hand, if he is inactive, takes little exercise, spends most of his time indoors in close air and in a warm temperature, shaping his diet, nevertheless, on the liberal scheme just described, the balance of unexpended nutriment soon tells more or less heavily against him, and must be thrown off in some form or other, more or less disagreeable, and somewhat unfairly, perhaps, be regarded as a visitation of disease.

Exercise and food.

After the first half or so of life has passed away, instead of such periodical attacks of sickness, the unemployed material may be relegated in the form of

fat to be stored on the external surface of the body, or be packed among the internal organs, and thus he or she may become corpulent and heavy, if a facility for converting appropriate material into fat is consistent with the constitution of the individual; for some constitutions appear to be without the power of storing fat, however rich the diet or inactive their habits may be. When, therefore, this process cannot take place, and in many instances, also, when it does, the over-supply of nutritious elements ingested must go somewhere, more or less directly, to produce disease in some other form, probably at first interfering with the action of the liver, and next appearing as gout or rheumatism, or as the cause of fluxes and obstructions of various kinds. Thus recurring attacks of gout perform the same duty, or nearly so, at this period of life that the bilious attacks accomplished in youth, only the first-named process is far more damaging to the constitution, and materially injures it.

Result of errors of over-feeding in middle life.

Varied according to constitution.

As an example of the relation between over-feeding and liver derangement, with inordinate fat production, witness the process, rapidly performed before our eyes if we so desire, in the cellars of Strasburg. For the unfortunate goose who is made by force to swallow more nutritive matter than is good for him in the shape of food which, excellent in appropriate conditions, is noxious to the last degree when it cannot be utilized by the consumer—I mean good milk and barleymeal—falls a victim in less than a month of this gluttonous living to that form of greatly enlarged and fatty liver which, under the name of *foie gras*, offers an irresistible charm to the gourmet at most well-furnished tables.*

What happens when a disposition to corpulence exists.

Pâté de foie gras.

* In passing, I would strongly commend the condition of those poor beasts to the consideration of the Antivivisection Society, since more disease is artificially produced among them in order to furnish our tables with the "pâté," than by all the physiologists of Europe who, in the interest, not of the human palate, but of human progress as affected by therapeutic knowledge, sometimes propagate and observe certain unknown forms of disease among a few of the lower animals.

The animal being thus fed is kept in a close, warm temperature, and without exercise, a mode of feeding and a kind of life which one need not, after all, go to Strasburg to observe, since it is not difficult to find an approach to it, and to watch the principle carried out, although only to a less considerable extent, anywhere and everywhere around us. Numerous individuals of both sexes, who have no claim by the possession of ornithological characteristics to consanguinity with the animal just named, may be said nevertheless to manifest signs of relation in some sort thereto—not creditable, perhaps, to the goose, the Strasburg dietary being an enforced one—by their habit of absorbing superfluous quantities of nutriment while living a life of inactivity; and of course, sooner or later, become invalid in body, unhappy in temper, and decrepit in regard of mental power.

and its lessons.

For let us observe that there are two forces concerned in this matter of bountiful feeding which must be considered a

little further. I have said that a hearty, active young fellow may for a considerable time consume much more than he requires for the purpose of meeting the expenditure of his life, and to repair the loss of the machine in its working, yet without much inconvenience. He, being robust and young, has two functions capable of acting at the maximum degree of efficiency. He has a strong digestion, and can convert a large mass of food into fluid aliment suitable for absorption into the system: that is function the first. But besides this, he has the power of bringing into play an active eliminating force, which rids him of all the superfluous materials otherwise destined, as we have seen, to become mischievous in some shape: and that is function the second. To him it is a matter of indifference for a time whether the quantity of material which his food supplies to the body is greater than his ordinary daily expenditure demands, because his energy and activity furnish unstinted opportunities of eliminating

The question of income and output.

the surplus at all times. But the neglect to adjust a due relation between the "income" and the "output" cannot go on for an indefinite period without signs of mischief appearing in some quarter. A tolerably even correspondence between the two must by some means be maintained to ensure a healthy condition of the body. It is failure to understand, first, the importance of preserving a near approach to equality between the supply of nutriment to the body and the expenditure produced by the activity of the latter; and, secondly, ignorance of the method of attaining this object in practice, which give rise to various forms of disease calculated to embitter and shorten life after the period of prime has passed.

Let it be understood that in the matters of feeding and bodily activity a surplus of unexpended sustenance—here referred to as "the balance"—is by its nature exactly opposite to that which prudent men desire to hold with their bankers in affairs of finance. In these

Income and expenditure.

latter engagements we desire to augment the income, and endeavour to confine expenditure within such limits as to maintain a cash balance in our favour to meet exigencies not perhaps foreseen. But in order to preserve our health when that period of blatant, rampant, irrepressible vigour which belongs to youth has passed away, it is time to see that our income of food and our expenditure through such activity as we have constitute a harmonious equality, or nearly so. A well-hoarded balance of nutritive material now becomes a source of evil, telling against its possessor, and by no means in his favour. And it is a balance which it is so agreeable and so easy to form, and which often so insidiously augments, unless we are on our guard against the danger. The accumulated stores of aliment—the unspent food, so to speak—which saturate the system are happily often got rid of by those special exercises to which so large a portion of time and energy is devoted by

The balance too often stored up,

which men have to get rid of by special exercises,

some people. It is to this end that men at home use dumb-bells or heavy clubs, or abroad shoot, hunt, and row, or perform athletic and pedestrian feats, or sweat in Turkish baths, or undergo a drench at some foreign watering-place—all useful exercises in their way, but pursued to an extent unnecessary for any other purposes than to eliminate superfluous nutrient materials, which are occasioning derangements in the system, for which these modes of elimination are sometimes an efficient cure, and thus are often ordered by the medical adviser.

by baths at home, or annual visits to baths abroad.

But as we increase in age—when we have spent, say, our first half-century—less energy and activity remain, and less expenditure can be made; less power to eliminate is possible at fifty than at thirty, still less at sixty and upwards. Less nutriment, therefore, must be taken in proportion as age advances, or rather as activity diminishes, or the individual will suffer. If he continues to consume the same abundant

Diminished intake needed owing to decline of activity by age.

breakfasts, substantial lunches, and heavy dinners, which at the summit of his power he could dispose of almost with impunity, he will in time certainly either accumulate fat or become acquainted with gout or rheumatism, or show signs of unhealthy deposit of some kind in some part of the body, processes which must inevitably empoison, undermine, or shorten his remaining term of life. He must reduce his "intake," because a smaller expenditure is an enforced condition of existence. At seventy, the man's power has further diminished, and the nutriment must correspond thereto, if he desires still another term of comfortable life. And why should he not? Then at eighty, with less activity there must be still less "support." And on this principle he may yet long continue, provided he is not the victim of some inherited taint or vice of system too powerful to be dominated, or that no unhappy accident inflicts a lasting injury on the machine, or no unfortunate exposure to insanitary poison has shaken the frame by

long exhausting fever; and then, with a fair constitution, he may remain free from serious troubles, and active to a right good old age, reaching far beyond the conventional seventy years which were formerly supposed to represent the full limit of man's fruitful life and work on earth.

But how opposed is this system to the favourite popular theory. Have we not all been brought up in the belief that the perfection of conduct consists, truly enough, in temperate habits in youth and middle life, such duty, however, being mostly enforced by the pleasant belief that when age arrived we might indulge in that extra "support" —seductive term, often fruitful of mischief —which the feebleness of advancing years is supposed to deserve? The little sensual luxuries, hitherto forbidden, now suggested by the lips of loving woman, and tendered in the confidence of well-doing by affectionate hands, are henceforth to be gracefully accepted, enjoyed, and turned to profit in the evening of our declining

Converse popular view.

years. The extra glass of cordial, the superlatively strong extract of food, are now to become delicate and appropriate aids to the enfeebled frame. Unhappily for this doctrine, it is, on the contrary, precisely at this period that concentrated aliments are not advantageous or wholesome, but are to be avoided as sources generally prolific of trouble. If the cordial glass and the rich food are to be enjoyed at any time, whether prudently or otherwise, like other pleasures they must be indulged when strength and activity are great—in other words, when eliminating power is at its maximum, assuredly not when the circulation is becoming slow and feeble, and the springs of life are on the ebb. For the flow of blood cannot be driven into any semblance of the youthful torrent by the temporary force of stimulants, nor is it with impunity to be overcharged by the constant addition of rich elements which can no longer be utilised.

Weakness due to age must never be treated by "more support."

And thus it is impossible to deny that

an unsuspected source of discomfort, which in time may become disease, sometimes threatens the head of the household—a source which I would gladly pass over, if duty did not compel me to notice it, owing as it is to the sedulous and tender care taken by the devoted, anxious partner of his life, who in secret has long noted and grieved over her lord's declining health and force. She observes that he is now more fatigued than formerly after the labours of the day, is less vigorous for business, for exercise, or for sport, less energetic every way in design and execution. She naturally desires to see him stronger, to sustain the enfeebled power which age is necessarily undermining; and with her there is but one idea, and it is practically embodied in one method—viz. to increase his force by augmenting his nourishment! She remonstrates at every meal at what she painfully feels is the insufficient portion of food he consumes. He pleads in excuse, almost with the consciousness of

Our dear partner's kind suggestions.

guilt, that he has really eaten all that appetite permits, but he is besought with plaintive voice and affectionate entreaty "to try and take a little more," and, partly to stay the current of gentle complaint, partly to gratify his companion, and partly, as with a faint internal sigh he may confess to himself, "for peace and comfort's sake," he assents, and with some violence to his nature forces his palate to comply, thus adding a slight burden to the already satiated stomach. Or if perchance endowed with a less compliant nature he is churlish enough to decline the proffered advice, and even to question the value of a cup of strong beef-tea, or egg whipped up with sherry, which unsought has pursued him to his study, or been sent to his office between eleven and twelve of the forenoon, and which he knows by experience must, if swallowed, inevitably impair an appetite for lunch, then not improbably he will fall a victim to his solicitous helpmeet's well-meaning designs in some other shape. There is

So varied and so persistent.

the tasteless calf's-foot jelly, of which a portion may be surreptitiously introduced into a bowl of tea with small chance that its presence will be detected, especially if accompanied by a good modicum of cream; or the little cup of cocoa or of coffee masking an egg well beaten and smoothly blended to tempt the palate—types of certain small diplomatic exercises, delightful, first, because they are diplomatic and not direct in execution; and, secondly, because the supporting system has been triumphantly maintained, her lord's natural and instinctive objections thereto notwithstanding.

But the loving wife—for whom my sympathy is not more profound than is my sorrow for her almost incurable error in relation to this single department of her duty—is by no means the only source of fallacious counsel to the man whose strength is slowly declining with age. We might almost imagine him to be the object of a conspiracy, so numerous are the temptations which beset him on every side.

Advertised nostrums.

The daily and weekly journals display column after column of advertisements, enumerating all manner of edibles and drinkables, and loudly trumpeting their virtues, the chief of which is always declared to be the abundance of some quality averred to be at once medicinal and nutritious. Is it bread that we are conjured to buy? Then it is warranted to contain some chemical element; let it be, for example, "the phosphates in large proportion"—a mysterious term which the advertising tradesman has for some time past employed to signify a precious element, the very elixir of life, which somehow or other he has led the public to associate with the nutriment of the brain and nervous system, and vaunts accordingly. He has evidently caught the notion from the advertising druggist, who loudly declares his special forms of half-food, half-physic, or his medicated preparations of beef and mutton, to contain the elements of nutrition in the highest form of concentration, among which

"The phosphates."

have mostly figured the aforesaid "phosphates"—as if they were not among the most common and generally prevalent of the earthy constituents of all our food!

Then, lest haply a stomach, unaccustomed to the new and highly concentrated materials, should, as is not improbable, find itself unequal to the task of digesting and absorbing them, a portion of gastric juice, "pepsin," borrowed for the occasion, mostly from the pig, is associated therewith to meet, if possible, that difficulty, and so to introduce the nourishment by hook or by crook into the system. I do not say the method described may not be useful in certain cases, and on the advice of the experienced physician, for a patient exhausted by disease, whose salvation may depend upon the happy combination referred to. But it is the popular belief in the impossibility of having too much of that or of any such good thing, provided only it consists of nutritious food, that the advertiser appeals to, and appeals successfully, and with such effect that the

credulous public is being gulled to an enormous extent. A matter of small consequence to many, but fraught with mischief to not a few, already the pitiable victims of over-feeding.

Then even our drink must now be nutritious! Most persons might naturally be aware that the primary object of drink is to satisfy thirst, which means a craving for the supply of water to the tissues—the only fluid they demand and utilize when the sensation in question is felt. Water is a solvent of solids, and is more powerful to this end when employed free from admixture with any other solid material. It may be flavoured, as in tea and otherwise, without impairing its solvent power, but when mixed with any concrete matter, as in chocolate, thick cocoa, or even with milk, its capacity for dissolving —the very quality for which it was demanded—is in great part lost. So plentiful is nutriment in solid food, that the very last place where we should seek that quality is the drink which accompanies

Nutritious drink.

the ordinary meal. Here at least we might hope to be free from an exhortation to nourish ourselves, when desirous only of allaying thirst or moistening our solid morsels with a draught of fluid. Not so; there are even some persons who must wash down their ample slices of roast beef with draughts of new milk!—an unwisely devised combination even for those of active habit, but for men and women whose lives are little occupied by exercise it is one of the greatest dietary blunders which can be perpetrated.

One would think it was generally known that milk is a peculiarly nutritive fluid, adapted for the fast growing and fattening young mammal—admirable for such, for our small children, also serviceable to those whose muscular exertion is great, and, when it agrees with the stomach, to those who cannot take meat. For us who have long ago achieved our full growth, and can thrive on solid fare, it is often superfluous and even mischievous as a drink.

Another agent in the combination to

maintain for the man of advancing age his career of flesh-eater is the dentist. Nothing is more common at this period of life than to hear complaints of indigestion experienced, so it is affirmed, because mastication is imperfectly performed for want of teeth. The dentist deftly repairs the defective implements, and the important function of chewing the food can be henceforth performed with comfort. But without any intention to justify a doctrine of final causes, I would point out the significant fact that the disappearance of the masticating powers is mostly coincident with the period of life when that species of food which most requires their action—viz. solid animal fibre—is little, if at all, required by the individual. It is during the latter third of his career that the softer and lighter foods, such as well-cooked cereals, some light mixed animal and vegetable soups, and also fish, for which teeth are barely necessary, are particularly valuable and appropriate. And the man with imperfect teeth who conforms

Artificial teeth,

to nature's demand for a mild, non-stimulating dietary in advanced years, will mostly be blessed with a better digestion and sounder health than the man who, thanks to his artificial machinery, can eat and does eat as much flesh in quantity and variety as he did in the days of his youth. Far be it from me to undervalue the truly artistic achievements of a clever and experienced dental surgeon, or the comfort which he affords. By all means let us have recourse to his aid when our natural teeth fail, for the purpose of vocal articulation, to say nothing of their relation to personal appearance: on such grounds the artificial substitutes rank among the necessaries of life in a civilized community. But it must be also understood that the chief end of teeth, so far as mastication is concerned, is still necessary in advancing age for all the food which has to be taken, whatever it consists of. But I cannot help adding that there are some grounds for the belief that those who have throughout life, from

and their uses.

their earliest years, consumed little or no flesh, but have lived on a diet chiefly or wholly vegetarian, will be found to have preserved their teeth longer than those who have always made flesh a prominent part of their daily food.

The tailor's ignorant flattery.

Then there is that occasional visit to the tailor, who, tape in hand, announces in commercial monotone to the listening clerk the various measurements of our girth, and congratulates us on the gradual increase thereof. He never in his life saw you looking so well, and "Fancy, sir, you are another inch below your armpits"—a good deal below—"since last year!" insidiously intimating that in another year or so you will have nearly as fine a chest as Sandow! And you, poor deluded victim, are more than half willing to believe that your increasing size is an equivalent to increasing health and strength, especially as your wife emphatically takes that view, and regards your augmenting portliness with approval. Ten years have now passed away since you were forty,

and by weight twelve stone and a half—a fair proportion for your height and build. Now you turn the scale to one stone more, every ounce of which is fat: extra weight to be carried through all the labours of life. If you continue your present dietary and habits, and live five or seven years more, the burden of fat will be doubled; and that insinuating tailor will be still congratulating you.

Weight: corpulence and its disastrous results.

Meantime, you are "running the race of life"—a figure of speech less appropriate to you at the present moment than it formerly was—handicapped by a weight which makes active movement difficult, upstair ascents troublesome, respiration thick and panting. Not one man in fifty lives to a good old age in this condition. The typical man of eighty or ninety years, still retaining a respectable amount of energy of body and mind, is lean and spare, and lives on slender rations. Neither your heart nor your lungs can act easily and healthily, being oppressed by the gradually gathering

fat around. And this because you continue to eat and drink as you did, or probably more luxuriously than you did, when youth and activity enabled you to dispose of that moiety of food which was consumed over and above what the body required for sustenance. Such is the import of that balance of unexpended aliment which your tailor and your foolish friends admire, and the gradual disappearance of which, should you recover your senses and diminish it, they will still deplore, half frightening you back to your old habits again by saying, "You are growing thin: *what can be the matter with you?*" Insane and mischievous delusion!

CHAPTER II

Cornaro's writing and experience—Reserve force in health—Training for athletic exploits—Difference in constitutions and circumstances—Value of light dietary to brain-workers—Force of habit—Flesh diet adopted too early in life—Indigestion—No food "wholesome in itself"—Closing remarks.

IT is interesting to observe that the principle I have thus endeavoured to illustrate and support, little as it is in accordance with the precept and practice of modern authority, was clearly enunciated so long ago as the sixteenth century, in the writings of Luigi Cornaro. He was born of noble family in Venice soon after the middle of the fifteenth century, and was contemporary for seventy years with Titian; wrote his first esssay on the subject of regimen and diet for the aged when eighty-three years of age, producing three others during the subsequent twelve

Cornaro's writings and experience.

years.* His object was to show that, with increasing age and diminished powers, a corresponding decrease in the quantity of food must be taken in order to preserve health. He died at Padua, "without any agony, sitting in an elbow-chair, being above an hundred years old."

Thus he writes: "There are old lovers of feeding who say that it is necessary they should eat and drink a great deal to keep up their natural heat, which is constantly diminishing as they advance in years; and that it is, therefore, their duty to eat heartily, and of such things as please their palate, be they hot, cold, or temperate; and that, were they to lead a sober life, it would be a short one. To this I answer that our kind mother, Nature, in order that

* "Discorsi della Vita Sobria," del Signor Luigi Cornaro. An English edition, with translation, was published by Benjamin White, at Horace's Head, in Fleet Street, London, 1768. Cornaro's first work was published at Padua in 1558. In his last, a letter written to Barbaro, Patriarch of Aquileia, he gives a description of his health and vigour when ninety-five years old. A paper in the *Spectator* was one of the first notices of him in this country. See vol. iii. No. 195.

old men may live still to a greater age, has contrived matters so that they should be able to subsist on little, as I do, for large quantities of food cannot be digested by old and feeble stomachs. . . . By always eating little, the stomach, not being much burthened, need not wait long to have an appetite. It is for this reason that dry bread relishes so well with me ; and I know it from experience, and can with truth affirm, I find such sweetness in it that I should be afraid of sinning against temperance, were it not for my being convinced of the absolute necessity of eating of it, and that we cannot make use of a more natural food. And thou, kind parent Nature, who actest so lovingly by thy aged offspring, in order to prolong his days, hast contrived matters so in his favour, that he can live upon very little ; and, in order to add to the favour, and do him still greater service, hast made him sensible, that, as in his youth he used to eat twice a day, when he arrives at old age he ought to divide that food, of which he was accustomed

before to make but two meals, into four; because, thus divided, it will be more easily digested; and, as in his youth he made but two collations in a day, he should, in his old age, make four, provided, however, he lessens the quantity as his years increase.

"And this is what I do, agreeably to my own experience; and, therefore, my spirits, not oppressed by much food, but barely kept up, are always brisk, especially after eating, so that I am obliged then to sing a song, and afterwards to write.

"Nor do I ever find myself the worse for writing immediately after meals, nor is my understanding ever clearer, nor am I apt to be drowsy, the food I take being in too small a quantity to send up any fumes to the brain. Oh, how advantageous it is to an old man to eat but little! Accordingly I, who know it, eat but just enough to keep body and soul together."

Cornaro. Cornaro ate of all kinds of food, animal as well as vegetable, but in very small quantity, and he drank moderately

of the light wine of his country, diminishing his slender rations as age increased. I am quite aware that I am reciting a story which must be familiar to many of my readers. But it is by no means generally known, and is too apt an example of the value of the law under consideration not to be referred to here.

It must now be clearly understood, as an universally applicable rule for men at all ages, that the amount of food ingested ought to accord, within certain narrow limits, with the amount of force employed for the purposes of daily life. But there is a certain qualification, apparent but not real, of the principle thus enunciated, which must be referred to here, in order to prevent misunderstanding or misinterpretation of my meaning in relation to one particular. It is right and fitting that a certain amount of storage material, or balance, should exist as a reserve in the constitution of every healthy man. Every healthy individual, indeed, necessarily possesses a stored

Apparent qualification.

Storage.

amount of force, which will stand him in good stead when a demand arises for prolonged unusual exertion, or when any period of enforced starvation occurs, as during a lingering fever or other exhausting disease. The existence of this natural and healthy amount of reserved force is, of course, presupposed throughout all my remarks, and its value is taken for granted. It is abundantly present in every obviously well-nourished and healthy man. That undue amount of stored nutriment, that balance which has been referred to as prejudicial to the individual, is a quantity over and above the natural small reserve which exists in health; for when augmented beyond that point, the material takes the form of diseased deposit, and ceases to be an available source of nutriment. Even the natural amount of store or reserve is prone to exceed the necessary limit in those who are healthy or nearly so.

Always present in health unless when starved.

Hence it is that in all systems of training for athletic exploits—which is simply a

process of acquiring the highest degree of health and strength attainable, in view of great or prolonged exertion —some loss of weight is almost invariably incurred in developing a perfect condition. In other words, almost any man who sets himself to acquire by every means in his power the best health possible for his system, does in the process necessary thereto, throw off redundant materials, the presence of which is not consistent with the high standard of function required. On the other hand, what is sometimes called "overtraining" is a condition in which the storage is reduced too much, and some weakening is incurred thereby; while "undertraining" implies that the useless fatty and other matters have not been sufficiently got rid of, so that the athlete is encumbered by unnecessary weight, and is liable to needless embarrassments, telling against his chances in more ways than one. The exact and precise balance between the two conditions is the aim of the judicious trainer.

"Training" and loss of weight.

We are thus led to the next important consideration, namely, that although broad rules or principles of diet may be enunciated as applicable to different classes of people in general, no accurate adaptation to the individual is possible without a knowledge of his daily habits and life, as well as to some extent of his personal peculiarities. No man, for example, can tell another what he can or ought to eat, without knowing what are the habits of life and work—mental and bodily—of the person to be advised. Notwithstanding which, no kind of counsel is more frequently tendered in common conversation by one stranger with another than that which concerns the choice of food and drink. The adviser feels himself warranted by the experience that some particular combination of nourishment suits his own stomach, to infer without hesitation that this dish will be therefore acceptable to the stomachs of all his neighbours. Surely the intelligence

Personal peculiarities.

Constitutions and circumstances differ.

The folly of supposing that one rule applies to all.

of such a man is as slender as his audacity and presumption are large. It would not be more preposterous if, having with infinite pains obtained a last representing precisely the size and the peculiarities in form of his own foot, he forthwith solemnly adjured all other persons to adopt boots made upon that model, and on none other! Only it may be confidently assumed that there is much more difference between stomachs and their needs among different individuals, than among the inferior extremities referred to for the purpose of illustration. Thus, in regard to expenditure of food, how great is the difference between that of a man who spends ten or twelve hours of the day at the work of a navvy, as an agricultural labourer in harvest time, or in draining or trenching land, as a sawyer, a railway porter, or a bricklayer's labourer, or, let me add, that of an ardent sportsman, as compared with the expenditure of a clerk who is seated at the desk, of individuals engaged in literary and artistic pursuits,

Examples.

demanding a life mostly sedentary and spent indoors, with no exercise but that which such persons voluntarily take as a homage to hygienic duty, and for a short period borrowed at some cost from engagements which claim most of their time and nearly all their energies. While the manual labourers rarely consume more food than they expend, and are, if not injured by drink, or by undue exposure to the weather, mostly hale and hearty in consequence, the latter are often martyrs to continued minor ailments, which gradually increase, and make work difficult, and life dreary.

Value of a light dietary to brain-workers.

Few people will believe how easy it is in most instances to avoid these stomach derangements and their results by adopting appropriate food, and that such brain-workers can really enjoy a fair degree of health and comfort by living on light food, which does not require much force to digest, and much muscular activity to assimilate. A diet, moreover, which is important to some of these from another point of view—the

financial one—inasmuch as it is at least less costly by one-half than the conventional meals which uniform personal habits or social customs prescribe alike to large classes of men in varied conditions of life. But there is another and more important economic gain yet to be named, as realizable through the use of a light and simple dietary. It is manifested by the fact that a greater expenditure of nerve-power is demanded for the digestion of heavy meals than for that of the lighter repasts which are suitable to the sedentary; from which fact it results, of course, that in the latter case, this precious power is reserved for more useful and more delightful pursuits than that of mere digestion, especially when this function is not too well performed.

Exercise and fresh air for such.

But those who have little time for exercise, and are compelled to live chiefly within doors, must endeavour also to secure, or should have secured for them as far as possible by employers, by way of compensation, a regular

supply of fresh air without draughts, an atmosphere as free from dust and other impurities as can be obtained, with a good supply of light, and some artificial warmth when needed. These necessities granted, cereal foods, such as well-made bread in variety, and vegetable produce, including fruits, should form a fair portion of the diet consumed, with the addition of eggs and milk if no meat is taken, except in the form of soup, and little of other animal food than fish, fowl, and game. On such a dietary, and without alcoholic stimulants, thousands of such workers as I have briefly indicated may enjoy with very little exercise far better health and more strength than at present they experience on meat and heavy puddings, beer, baker's bread, and cheese. Of course there are workers who belong to neither of the two extreme classes indicated, and whose habits cannot be described as sedentary, but who occupy a middle place between the two. For such, some corresponding modification of the dietary is naturally appropriate.

Thus, then, it is a common error to regard much meat in any form as necessary to life; although it is desirable for the hard-working outdoor labourers, and for the two services—the army and navy; and for these latter it is especially so. Animal flesh is useful as a concentrated form of nutriment, valuable for its portability. Like every other description of food, it is highly useful in its place, but is by no means always necessary for a large proportion of the population. To many it may have become partially desirable only by the force of habit, and because their digestive organs have thus been trained to deal with it, and at first resent a change. But this being gradually made, adaptation takes place, and the individual who has consumed two or three meat meals daily with some little discomfort, chiefly from being often indisposed to make active exertions, becomes, after sufficient time has elapsed, stronger, lighter, and happier, as well as better-tempered, and manifestly healthier

Values of concentrated animal food.

Force of habit.

on the more delicate dietary sketched. People in general have very inadequate ideas of the great power of habit alone in forming what they believe to be innate personal peculiarities, or in creating conditions which are apparently part of a constitutional necessity, laws of their nature and essential to their existence. Many of these peculiarities are solely due to habit, that is, to long continuance in a routine of action, adopted, it may be, without motive or design; and people are apt to forget that if a routine of a precisely opposite character had been adopted, precisely opposite conditions would have been established, and opposite peculiarities would have become dominant, as their contraries are now. Alterations in the dietary, especially of elderly persons, should be made gradually and with caution. This condition fulfilled, a considerable change may be effected with satisfactory results, when circumstances render it necessary.

To revert once more to the question of

flesh-eating, it should be remarked that it appears to be by no means a natural taste with the young. Few children like that part of the meal which consists of meat, but prefer the pudding, the fruit, or the vegetables, if well-dressed, which unhappily is not always the case. Many children manifest great repugnance to meat at first, and are coaxed and even scolded by anxious mothers until the habit of eating it is acquired. Adopting the insular creed, which regards beef and mutton as necessary to health and strength, the mother often suffers from groundless forebodings about the future of a child who rejects flesh, and manifests what is regarded as an unfortunate partiality for bread and butter and pudding. Nevertheless, I am satisfied, if the children followed their own instinct in this matter, the result would be a gain in more ways than one. Certainly, if meat did not appear in the nursery until the children sent for it, it would be rarely seen there, and the young ones would as a rule thrive better on

Flesh diet often adopted too early in life.

milk and eggs, with the varied produce of the vegetable kingdom.

A brief allusion must be made to the well-known and obvious fact that the sur-

Temperature and food.

rounding temperature influences the demand for food, which therefore should be determined as regards quantity or kind according to the climate inhabited, or the season of the year as it affects each climate. In hot weather the dietary should be lighter, in the understood sense of the term, than in cold weather. The sultry period of our summer, although comparatively slight and of short duration, is nevertheless felt by some persons to be extremely oppressive; but this is mainly due to the practice of eating much animal food or fatty matters, conjoined as it often is with the habit of drinking freely of fluids containing more or less of alcohol. Living on cereals, vegetables, and fruit, with some proportion of fish, and abstaining from alcoholic drinks, the same persons would probably enjoy the high temperature, and be free from the thirst which is the natural

result of consuming needlessly substantial and heating food.

There is a very common term, familiar by daily use, conveying unmistakably to every one painful impressions regarding those who manifest the discomforts indicated by it—I mean the term "indigestion." The first sign of what is so called may appear even in childhood; not being the consequence of any stomach disorder, but solely of some error in diet, mostly the result of eating too freely of rich compounds in which sugar and fatty matters are largely present. These elements would not be objectionable if they formed part of a regular meal, instead of being consumed, as they mostly are, between meals, already abounding in every necessary constituent. For both sugar and fat are elements of value in children's food, and naturally form a considerable portion of it, entering largely into the composition of milk, which Nature supplies for the young and growing animal. Indigestion.

In children, an attack of indigestion

mostly terminates rapidly by ejection of the offending matter. But the indigestion of the adult is less acutely felt and is less readily disposed of. Uneasiness and incapacity for action, persisting for some time after an ordinary meal, indicate that the stomach is acting imperfectly on the materials which have been put into it. These signs manifest themselves frequently, and, if Nature's hints that the food is inappropriate are not taken, they become more serious. Temporary relief is easily obtained by medicine; but if the unfortunate individual continues to blame his stomach, and not the dietary he selects, the chances are that his troubles will continue, or appear in some other form. At length, if unenlightened on the subject, he becomes "a martyr to indigestion," and resigns himself to the unhappy fate, as he terms it, of "the confirmed dyspeptic."

Such a victim may perhaps be surprised to learn that nine out of ten persons so affected are probably not the subjects of any complaint whatever, and that the

stomach at any rate is by no means necessarily faulty in its action—in short, that what is popularly termed "indigestion" is rarely a disease in any sense of the word, but merely the natural result of errors in diet. For most men it is the penalty of conformity to the eating habits of the majority; and a want of disposition or of enterprise to undertake a trial of simpler foods than those around them consume probably determines the continuance of their unhappy troubles. In many instances it must be confessed that the complaint, if so it must be called, results from error, not in the quality of the food taken, but in the quantity. Eating is an agreeable process for most people, and under the influence of very small temptation, or through undue variety furnishing a source of provocation to the palate, a considerable proportion of nutritious material above what is required by the system is apt to be swallowed.

"Indigestion" a natural result of ill-chosen diet.

Then it is also to be remembered that stomachs which vary greatly in their

capacity and power to digest, may all nevertheless be equally healthy and competent to exercise every necessary function. In like manner we know that human brains which are equally sound and healthy, often differ vastly in power and in activity. Thus a stomach which would be slandered by a charge of incompetence to perform easily all that it is in duty bound to accomplish, may be completely incapable of digesting a small excess beyond that natural limit. Hence, with such an organ indigestion is inevitable when this limit is only slightly exceeded. And so when temptations are considerable, and frequently complied with, the disturbance may be, as it is with some, very serious in degree. How very powerful a human stomach may sometimes be, and how large a task in the way of digestion it may sometimes perform without complaint, is known to those who have had the opportunity of observing what certain persons with exceptional power are accustomed to take as food, and do take

Variation of stomachs.

Natural power to digest is small in some.

for a long time apparently with impunity. But these are stomachs endowed with extraordinary energy, and woe be to the individual with a digestive apparatus of moderate power who attempts to emulate the performance of a neighbour at table who perchance may be furnished with such an effective digestive apparatus.

After all, let not the weaker man grieve overmuch at the uneven lot which the gods seem to have provided for mortals here below in regard to this function of digestion. There is a compensation for him which he has not considered, or perhaps even heard of, although he has been so moderately endowed with peptic force. A delicate stomach which can just do needful work for the system and no more, by necessity performs the function of a careful door-porter at the entrance of the system, and like a jealous guardian inspects with discernment all who aspire to enter the interior, rejecting the unfit and the unbidden, and all the common herd.

Compensation.

Illustration.

On the other hand, a stomach with superfluous power, of which its master boastfully declaims that it can "digest tenpenny nails," and that he is unaccustomed to consult its likes and its dislikes if it have any, is like a careless hall-porter who admits all comers, every pretender, and among the motley visitors many whose presence is damaging to the interior. These powerful feeders after a time suffer from the unexpended surplus, and pay for their hardy temerity in becoming amenable to penalty, often suddenly declared by the onset of some serious attack, demanding complete change in regimen, a condition more or less grave. On the other hand, the owner of the delicate stomach, a man perhaps with a habit of frequently complaining of slight troubles, and always careful, will probably in the race of life, as regards the preceding pilgrim, take the place of the tortoise as against the hare. It is an old proverb that "the creaking wheel lasts longest," and one that is certainly true as regards

a not powerful but nevertheless healthy stomach which is carefully treated by its owner; to whom this fact may be acceptable as a small consolation for the possession of a delicate organ.

For it is a kind of stomach which not seldom accompanies a fine organization. The difference is central, not local; a difference in the nervous system chiefly; the impressionable mental structure, the instrument of strong emotions, must necessarily be allied with a stomach to which the supply of nerve-power for digestion is sometimes temporarily deficient and always perhaps capricious. There are more sources than one of compensation to the owner of an active, impressionable brain, with a susceptible stomach possessing only moderate digestive capabilities—sources altogether beyond the imagination of many a coarse feeder and capable digester.

Due sometimes to an impressionable nervous system.

But it is not correct, and it is on all grounds undesirable, to regard the less powerful man as a sufferer from indigestion,

that is, as liable to any complaint to be so termed. True indigestion, as a manifestation of diseased stomach, is comparatively quite rare, and I have not one word to say of it here, which would not be the fitting place if I had. Not one person in a hundred who complains of indigestion has any morbid affection of the organs engaged in assimilating his food; unless a temporary one, occasioned by over-indulgence. As commonly employed, the word "indigestion" denotes, not a disease, but an admonition. It is the language of the stomach, and is mostly an unknown tongue to those who are addressed. Few even listen to the cry, much less imagine that it bears a message of importance. It means, however, that the individual thus admonished has not yet found his appropriate diet: that he takes food unsuited for him, or too much of it. The food may be "wholesome enough in itself," a popular phrase permitted to appear here, first, because it conveys a meaning

Indigestion mostly is not disease, but an admonition.

perceived by every one, although the idea is loosely expressed; but secondly, and chiefly, for the purpose of pointing out the fallacy which underlies it. There is no food whatever which is "wholesome in itself;"—and there is no fact which people in general are more slow to comprehend. That food only is wholesome which is so to the individual; and no food can be wholesome to any given number of persons. Milk, for example, may agree admirably with me, and may as certainly invariably provoke an indigestion for my neighbour; and the same may be said of almost every article of our ordinary dietary. The wholesomeness of a food consists solely in its adaptability to the individual, and this relation is governed mainly by the influences of his age, activity, surroundings, and temperament or personal peculiarities.

No food can be affirmed "wholesome."

Indigestion, therefore, does not necessarily, or indeed often, require medicine for its removal. Drugs, and especially small portions of alcoholic spirit, are often

used for the purpose of stimulating the stomach temporarily to perform a larger share of work than by nature it is qualified to undertake; a course which is disadvantageous for the individual if persisted in. The effect on the stomach is that of the spur on the horse; it accelerates the pace, but "it takes it out" of the animal; and if the practice is long continued, shortens his natural term of efficiency.

A "light dietary" may be a very palatable one.

It is an erroneous idea that a simple form of dietary, such as the vegetable kingdom in the largest sense of the term furnishes, in conjunction with a moderate proportion of the most easily digested forms of animal food, may not be appetising and agreeable to the palate. On the contrary, I am prepared to maintain that it may be easily served in forms highly attractive, not only to the general but to a cultivated taste. A preference for the high flavours and stimulating scents peculiar to the flesh of vertebrate animals, mostly subsides after a fair trial of milder foods when supplied

in variety. And it is an experience almost universally avowed, that the desire for food is keener, that the satisfaction in gratifying appetite is greater and more enjoyable, on the part of the general light feeder, than with the almost exclusively flesh-feeder. For this latter designation is applicable to almost all those who compose the middle-class population of this country. They consume little bread and few vegetables ; all the savoury dishes are of flesh, with decoctions of flesh alone for soup. The sweets are compounds of suet, lard, butter, eggs, and milk, with very small quantities of flour, rice, arrowroot, etc., which comprise all the vegetable constituents besides some fruit and sugar. Three-fourths at least of the nutrient matters consumed are from the animal kingdom. A reversal of the proportions indicated, that is, a fourth only from the latter source with three-fourths of vegetable produce, would furnish greater variety for the table, tend to maintain a cleaner palate, increased zest for food, a lighter

and more active brain, and a better state of health for most people not engaged in the most laborious employments of active life. While for those who are so occupied the same proportion amply suffices, and, with due choice of material, even that amount of animal food might be diminished, probably sometimes with advantage. For inactive, sedentary, and aged persons the small proportion of animal food indicated might be considerably lessened with beneficial result. Individuals of sixty years and upwards have frequently told me that they have no recollection of any previous period since reaching mature age, at which they have possessed a keener relish for food than that which they enjoy at least once or twice a day since they have adopted the dietary thus described. Such an appetite at all events as had rarely offered itself during years preceding, when the choice of food was conventionally limited to the unvarying progression and array of mutton and beef, in joint, chop, and steak, arriving

An experience generally confirmed.

after a strong meat soup, with a possible interlude of fish, and followed by puddings of which the ingredients are chiefly derived from the animal sources.

Certain disadvantages of constant flesh cookery.

The penetrating odours of meat cookery which announce their presence by escape from the kitchen, and will, in spite of much precaution, pervade the air of other rooms in any private house but a large one, and which are encountered in clubs, restaurants, and hotels without stint, rank among the small miseries of human life, and are only tolerated because believed to be almost necessary to existence. Such offence to a delicate and sensitive organism alone suffices to blunt the inclination for food of one who, returning from daily occupation fatigued and fastidious, desires a repast easy of digestion, attractive in appearance, and unassociated with any element of a repulsive character. The light feeder knows nothing of the annoyances described; he finds on his table that which is delightful to a palate

sensitive to mild impressions, and indisposed to gross and over-powerful ones. After the meal is over, his wit is fresher, his temper more cheerful, and he takes his easy-chair to enjoy fireside talk, and not to sink into a heavy slumber, which on awakening is but exchanged for a sense of discontent or stupidity.

Closing remarks to Part I.

The doctrine thus briefly and inadequately expounded in this chapter may probably encounter some opposition and adverse criticism. I am quite content that this should be so. Every proposal which disturbs the current habits of the time, especially when based on long prevalent custom, infallibly encounters that fate. But of the general truth, and hence of the ultimate reception of the principles I have endeavoured to illustrate, there cannot be the faintest doubt. And I know that this result, whenever it may be accomplished, will largely diminish the painful affections which unhappily so often appear during the latter moiety of adult life. And having during my later

years widely inculcated the general dietetic principles and practice briefly illustrated here, with abundant grounds for my growing conviction of their value, it appears to me to be a duty to call attention to them somewhat more emphatically than in some preceding contributions on the subject of diet already referred to. In attempting to do this I have expressly limited myself to statements relating to those simple elementary facts concerning our everyday life, which ought to be within the knowledge of every man, and therefore such as may most fitly be set forth in a publication outside of that field of special and technical record which is devoted to professional observation and experience.

PART II

CHAPTER I

Simplicity in diet—Corpulence to be avoided—Prevention of corpulence—The proper mode of eating—Water a true food—Early morning tea—Temperature at which hot liquids are and should be taken—Exercise—System for meals.

LET me commence this portion of my work by stating that I advise more emphatically than ever, simplicity in diet; by which is to be understood, that not only is the quantity of food taken to be gradually diminished in proportion to decreased activity of body and mind, but that not more than two or three different forms of food should be served at any one meal. There is no objection to variety in the choice of our provisions. On the contrary, it is neither necessary nor desirable to make use of the same kinds of aliment every day. Moreover, these necessarily vary considerably with the season of

Simplicity in diet more important than ever.

Variety desirable.

the year, both in the animal and vegetable kingdoms. And from the profusion which Nature provides should be selected those which each individual, at the time of life supposed, has discovered, by personal experience or otherwise, to agree best with his constitution. I say advisedly "with his constitution," rather than with his stomach. For it should be observed there are notable examples of the stomach digesting easily materials highly injurious to the constitution. It will suffice to name one important and not uncommon example here, viz. that in which many persons so readily digest and assimilate fatty or fat-forming elements in their food, and become unduly corpulent in consequence. Such a condition should be avoided as most undesirable in advancing years, and as one of the most certain to prevent longevity, and give rise to complaints which entail discomfort and even suffering during the latter period of life. No one should permit himself to become the subject of obesity in advancing years; and

Avoid becoming corpulent.

No one need be so.

almost invariably it is his own fault if he does. The prevention may be insured by largely reducing the use of fatty foods, as fat of meat, bacon, ham, etc., by renouncing all pastry which contains that element largely; also cream, and much milk, as well as all starchy matter, which abounds in the potato and other farinaceous products of the vegetable kingdom; and especially in those combinations so popular and so universally met with at the family table, as rice, sago, tapioca, and corn-flour puddings, made with milk and eggs, of which the yolks contain much fat, the whole being sweetened with sugar—a combination of "carbo-hydrates" of the most fattening kind. Admirable for childhood and middle life, and afterwards, during the years of maximum activity, they must be completely renounced, if corpulence appears in later life. In this condition also large quantities of liquid are undesirable at meals; indeed, no liquid should be taken during the meal, and only in moderate quantity soon after it. If any wine is taken,

How to avoid tendency to corpulence, if it exists.

Drink in relation to it.

it should be a light Moselle, while ale or beer in any form is wholly inadmissible. Pure water alone is probably the best, or as used in tea, coffee, and cocoa.

Respecting the act of eating itself, it is desirable to add a few words here. Not many persons learn the importance of performing it rightly in youth and middle life. Indeed, it ought to be taught among other elementary lessons in Physiology at every school in early life; a short course of which would be much more important and far more interesting than some of the other courses which the existing curriculum contains. I mean by this, a simple description of the chief internal organs connected with digestion and how they act. Every child at eight or ten years of age should know what becomes of his bread-and-butter, and of his meat, when he gets it. I can scarcely conceive a better subject than this—for a simple and entertaining talk to a class of these young people, with a diagram on the wall, showing the chief

The proper mode of eating.

Elementary physiology for children explained.

organs contained in the chest and abdomen. Another chat about respiration and the circulation of the blood would follow at a later period. The subject is regarded with suspicion by the public, from the imposing effect of the five-syllabled Greek term "Physiology," which suggests the idea that I propose to teach young children "science!" —as if that term, let me remark, whenever it is used, denoted anything more than an "*exact* knowledge respecting the matter in hand." The process of masticating affects the food in two ways, during the period it is retained in the mouth, before the act of swallowing takes place.

Process of mastication.

First, it is essential that all food, whether formed of meat, fish, bread, or vegetable, should be thoroughly divided into minute fragments by the teeth, so that, first, the animal portion may be properly subjected to the action of the gastric juice when it arrives at the stomach; secondly, because for all starchy foods already spoken of as the carbo-hydrates, complete and prolonged mastication is, if

Complete division of food,

possible, even more necessary, although they are generally soft and easily swallowed. For the act of mastication excites a constant flow of saliva into the mouth, secreted by numerous adjacent glands: a fluid containing a specific chemical agent, known as "ptyalin," by means of which the actual process of digestion is performed in the mouth, of all the starchy products—which are completely insoluble in water—converting them into "glucose," which is quite soluble, and on being swallowed can therefore be absorbed as soon as they reach the stomach. This fact should never be forgotten, that the mouth is the cavity in which that large portion of our food which consists of bread, and farinaceous foods and vegetable tubers, ought to be digested by means of mastication and insalivation—*i.e.* thorough mixing with the saliva. If, however, this process be neglected, as unhappily is too often the case, the stomach, which is capable of digesting animal food only, of course including milk and eggs, and

and digestion of farinaceous foods by the saliva.

How accomplished.

Results of neglecting to masticate.

has no power whatever to digest starchy matters, is liable to be deranged by the presence of much undigested bread and pudding, which, if not well masticated, must be detained there until the animal products are dissolved, when the entire contents reach the small intestine (duodenum), where digestion of the starchy matters is effected by contact with the pancreatic juice, which renders them soluble and capable of being absorbed as nourishment to the system.

It will be appropriate here to revert to a subject already referred to when treating of obesity, viz. that of not drinking during meals. This practice has also the advantage of enforcing the remarks already made. The habit of imbibing our fluids during the progress of a meal, whether it be breakfast, dinner, tea, or supper, is almost universal. In this manner, from half a pint to a pint and a half are thus consumed at a single meal; hence much of the solid matter eaten is unconsciously carried down into the stomach unmasticated,

One result of drinking during meals, is that food is unconsciously swallowed whole.

and the farinaceous foods, especially at breakfast where they abound, are undigested. Whether the fluids consist of hot tea and coffee, cold water or wine, more or less diluted, the result is, that the food is apt to reach the stomach imperfectly masticated. The only legitimate mode, as I have shown, is to masticate every morsel until it becomes a soft pultaceous mass, and is easily swallowed in consequence, unaided by drink. If this rule be observed, the meal, if wholesome in kind and in quantity, will be easily and rapidly disposed of in the stomach; and after all is finished, let the tea or coffee be enjoyed by itself. The popular mode of alternately sipping fluid and eating is a difficult one to break; but it is merely a bad habit, and by perseverance can be exchanged for a good one. And when one has a healthy appetite for solid food at meal times, drink is never desired, at any rate to begin with. A certain amount is required to meet the demands of the body, for it

Rule always to be observed.

Amount of drink usually required.

has been calculated that an average adult requires nearly two and a half pints of water daily, which may be in the form of tea, coffee, aërated drinks, or otherwise, according to his pleasure; and in this way water is regarded as a true food.*

Water a true food.

The number of meals in the day is, to some extent, a question of engagements, and of previous habits. In advanced years, four small meals are generally better than three. Nothing should ever be eaten between them. Prior to these meals, however, I myself derived very great advantage, for twenty or thirty years

Number of meals daily.

* It should be borne in mind that water is an integral part of the tissues of the body; two-thirds of the weight of every individual being water. All the solid food we eat contains about half its weight of water. Water is not absorbed by the stomach, but is expelled by the pylorus (its lower valvular outlet) into the small intestine, from which it is taken up into the blood; and the hotter it is, the more rapidly it is ejected, thus promoting the peristaltic action of the bowels. (*Vide* "Food and the Principles of Dietetics," p. 299, *et seq.*, by Robert Hutchison, M.D., M.R.C.P.) This in fact is one of the principles on which the so-called "Hot-water cure" is based. And the temperature of the water which should be slowly sipped may be as high as 130° Fahr.

at least, from taking a full-sized breakfast cup of *weak* tea containing about one-fourth of milk—always of course sterilized or boiled—every morning at six o'clock, while in bed, and never miss it.

Early morning tea.

Nothing is easier than to make this one's self; it should never be left to servants. Close to the bedside, a small side-table is placed over-night with a tray upon it, containing an ordinary Etna, holding fully ten ounces of water, with an appropriate measure of wood-spirit, in a little bottle at its side. The milk is put into the cup and covered from dust. A small teaspoonful of tea is placed in a silver wire cage with a hook, by which it is attached to the brim of the Etna, and by which it is suspended in the water when it boils, leaving it there, say, three or four minutes only, and then removing it.

Simplest way of making it.

The contents are poured into the cup which is now quite full, and the hot tea should be slowly sipped until finished, without the addition of anything whatever to eat. For those who breakfast at a later

hour than myself (8.30), this morning-tea can be taken correspondingly later, but in any case should be taken at least an hour and a half before the first meal of the day. For many years I accustomed myself to write for an hour every morning in bed after the tea, and I have no hesitation in saying that at no time did I find the brain clearer for work, while the appetite for solid food was excellent when the hour for breakfast arrived. The temperature at which to take hot drinks is by no means unimportant. Few persons are aware that they habitually swallow hot liquids, tea especially, at a temperature which, if applied to the hands or feet, would inflict painful scalds. Most tea-drinkers take it about 140° to 145° Fahr., which the mouth bears very well if slowly sipped, while the cup itself is too hot to be held by any hand. But the habit of swallowing such tea is injurious to the stomach, and it ought not to be taken above 130° or so. Again, water at 120°, which feels little more than lukewarm in

Temperature at which hot liquids are and should be taken.

the mouth, causes severe pain if the hand is dipped in it, and cannot be endured.

Temperatures of baths.

Then, no one can take a foot-bath above 112°, very few at that, and only after long-continued habitual use: 110° can only be borne usually, and ought to suffice. A hot bath for the entire body is generally taken at from 98° to 100°, although it may be sometimes gradually raised to 105° with advantage; and this I am convinced ought rarely to be exceeded.

Dietetics in detail.

I now approach the subject of Dietetics in detail. First, however, let me assume that the ideal personage here advised is entering his eighth decade, or, perhaps, has passed halfway through it—that he is of average size and weight, and has little or no tendency to corpulence. If he has, he must omit some of the foods already pointed out under the head of Obesity, as unfit for those who are afflicted with it. It will be assumed also that he is capable of taking bodily exercise in the open air at least once daily;

Exercise of mind.

of walking, say, five, four, or three miles at a stretch, according to his age, and that he does so. That his mind is also actively employed more or less every day: possibly, in some form of literary work, or of professional, commercial, political, or other engrossing activity. For it is very undesirable to be without occupation, and it should be one that involves personal exertions of some kind during a portion of every day. To add, that some gentle use of the muscles of the arms and back should be ensured every morning for a few minutes before dressing, by light clubs or dumb-bells, will suffice for the subject of indoor physical exercise.

Bodily exercise.

Relative to outdoor exercise, this is essentially necessary to the preservation of health in advancing years; and, further, to state that the amount of walking should be sufficient to accelerate the circulation, and produce some action of the skin, as denoted by gentle perspiration. A favourite and often admirable mode of taking it is, no doubt, that known as "the

Out-of-doors.

old gentleman's cob," who, if a wholly trustworthy beast, may be both a useful servant and a friend. Moreover, wet weather should not be an excuse for omitting out-of-door exercise. A long waterproof coat and an umbrella should be used, and boots may be kept dry by goloshes, or be changed on returning, if necessary; no risk is then incurred. As our subject is "Diet in relation to Age and Activity," it was necessary to define the last-named condition, to a certain extent, before considering the subject of food.

With these preliminary observations, I now approach the subject of Dietetics in detail. I advise as a typical system, which can be varied according to the circumstances and personal idiosyncrasies of the individual, four small meals in the day. Breakfast, say about 8.30, after hot weak tea and milk before rising; lunch about 1 or 1.15; dinner at 7 or 7.30; and a little refreshment, about 11, if required.

System for meals.

Following this course, the animal food supplied for breakfast and at lunch may

include an egg or fish cooked in various well-known ways. At lunch, a little tender meat or fowl may be taken, unless it is preferred to reserve them for dinner, in which case fish and a farinaceous pudding may be substituted. This last-named meal should generally commence with a little good *consommé;* often substituting a vegetable *purée,* varying with the season, and made with a light meat stock or broth; or a good fish soup as a change. Then a little fowl (or game) and a dish of vegetable, according to the time of year. Finally, perhaps, some light farinaceous pudding, with or without fruit, should close the meal, which is to be a light one in regard to quantity. Lastly, supper; a very light refreshment may be advantageously taken the very last thing before entering bed, at about eleven or so, as it favours sleep. All animals feed before resting for the night. Few meals are more undesirable for man than a heavy supper, which severely taxes digestion. But elderly men especially require some easily

Breakfast. Lunch. Dinner. A light supper.

digested food to support them during the long fast of night. It is well known that the forces of the body are at their minimum at 4 or 5 a.m.; and this may be well provided for, by taking about 5 or 6 ozs. of *consommé* with 1 ounce of thin toasted bread, served in the bedroom as above said.

Special reason for elderly persons.

Of bread eaten with meals it may be said, that whether brown or white, it should be toasted; the white as containing most starch should be toasted thoroughly, so as to be quite brittle, and show the brown colour extending through its interior; the starch is thus converted into glucose which is soluble. Quantity during the meal, from 3 to 5 ozs. of the bread before toasting it, which, of course, diminishes the weight. Fresh butter is the most generally wholesome of all fatty matters which come to table; about 3 or 4 ozs. may be taken daily, of course including that which is used in cooking.

Bread.

Butter.

Drink. Very weak tea is generally the best at breakfast, with a good proportion

of milk; and with sugar if it agrees. This is not to be taken very hot, for reasons already named, and about five minutes after the conclusion of the meal. At lunch, the drink may include a breakfast-cup of coffee with milk; or a draught, if desired, of pure distilled aërated water, either to be taken after the meal. The question of wine and spirits will be discussed in its place hereafter. Drink.

Occupation: after breakfast. Two hours at least of some quiet sedentary occupation should follow this meal; after which an hour or a little more should be devoted to outdoor exercise. As age advances, say at eighty or upwards, it is often advisable, by no means always, to find a seat somewhere after the first half-hour or more—such as are provided in all the London parks—and rest for a quarter of an hour, to enjoy as much fresh air as possible, before returning by the same or by another and, perhaps, extended route. But it should be a rule to reach home twenty or thirty minutes before lunch, during which Occupation for forenoon.

period, rest—best in the recumbent position—should be maintained, as a desirable preparation for the coming meal. An hour and a half's rest at least should follow lunch, when a portion of the afternoon should be spent driving in fresh air, if possible, or in visiting friends; and at one's club, where the billiard-room offers gentle exercise, if the condition of the eyesight permits; if not, a quiet rubber or two should be always within reach, and be enjoyed as a special resource of age.

Rest before midday meal, and after.

The club and its resources.

Whist.

Here also may be found the daily journals with the news of the day; often doubtless too much read, but containing not a little that is necessary to be known concerning the wide world in its course. Moreover, if it be a club of the first rank, it will contain a collection of Encyclopædic works, English and foreign, for reference, and for research on all subjects, so necessary to every man of intelligence. Then it is also a treasure-house of standard classical literature, that of our own country during

the last two or three centuries, with some of the best examples of foreign authors, besides the ancient "classics," specifically so-termed. Besides these, a large collection of ancient and modern works of fiction, or what is known as "light reading" for leisure hours. Among these we shall probably find the admired masters of the past, whom perchance we read in our youth, a great resource now; and that some of these are more highly appreciated, understood, and enjoyed, re-read as they are with the matured knowledge of the world which comes with age. Perhaps there is no man, however active and hard-working in the past, who has not found a great and necessary relief in spending what would otherwise be tedious hours, over works of fiction, new and old favourites treasured in his own library at home.

Literature.

"Our Club" suggests the smoking-room, and a very few words about that habit will suffice. The only persons who enjoy the practice, and find it tranquillising at times, are those who smoke in great

Smoking.

moderation. Men who certainly do not enjoy it, and have long ceased to do so, are those who are rarely seen either here or elsewhere without a cigar between their lips. To have one there has become a confirmed habit, which is followed by the natural result that they are merely miserable when the cigar is absent. That much smoking endangers the eyesight and occasions a chronic disease of the throat is not to be forgotten.

A cup of weak tea may be taken at the usual "Five-o'clock tea," but not a single morsel of solid food. Nothing can be more undesirable, not to use a stronger term, than the practice of eating then; especially of the sweet and unwholesome dainties of every description, which are offered to visitors at this popular hour among ladies when receiving their friends; a repast which practically takes place about two hours before dinner, at which time the stomach should be completely at rest in view of that meal so near at hand.

Five-o'clock tea.

CHAPTER II

Alcoholic liquors—Cold and hot baths—Turkish baths—The air-bath—Hats to be dispensed with when possible—Indoor warmth—Hints on self-command—Hints relative to opinion and an open mind.

THE question of alcoholic drink has to be considered. I believe all intelligent persons will agree in believing that the consumption of alcoholic liquors (beer, wine, and spirits) by people in general, greatly exceeds that which is desirable for health. Having been myself what is known as "a moderate drinker" up to about fifty-two years of age, my own experience, and large opportunities of observing that of others, compelled me some years earlier to come to the conclusion that most of those patients who suffered from indigestion, or from what

Alcoholic liquors.

they termed "Rheumatism, gout," etc.,* were greatly improved in health by appropriate diet and some simple treatment; and that many were permanently cured, provided that they discontinued the use of alcoholic drinks altogether.

In the original editions constituting what is now called the "First Part" of this little work, the view of abstinence from alcoholic liquors just enunciated was taken for granted. Here, in the "Second Part," where details are given respecting diet and habits of various kinds, conducive to longevity and to the prevention of disease at the same time, a fuller consideration of the subject is necessary.

Reputed value of wine in old age.

Further, it is well known that a popular idea respecting the value of alcohol to elderly men has existed, time out of mind, expressed by the quaint saying, "Wine is the milk of old age."

* These terms have little real meaning as popularly used, and express no other fact than the existence of pain and stiffness in the joints or elsewhere; but they indicate the necessity for a careful inquiry into the patient's general condition and habits, so that a diagnosis of his complaint may be made.

Desirous of testing this allegation at all events—and I confess with a faint hope that there might be some truth in it for myself—I made the experiment at the age of seventy-five of taking during a period of about two months, a single claret-glass —say three ounces—of good wine every day at dinner only. But I was compelled to give it up, as I felt unmistakable signs of the return of pain and stiffness in the joints, together with the recurrence of sick-headaches, from which I had suffered severely for many years before. For these I had at that early date obtained no relief, notwithstanding much treatment, until I abstained entirely from alcoholic drinks, when, after a few months, I lost my local pains and the sick-headaches completely. Moreover, the joints gradually lost their stiffness and ultimately became as supple and mobile as they were in youth, and continue absolutely so until this day.* It may be fairly said in reply

* This is not an extravagant use of language, but a well-considered statement, capable of verification, and is no less so now than at the time of writing.

that one example does not suffice to prove a case. But it is not a single example, and really designates a very large class of active men among all ranks, possessing a more or less similar temperament, of which a type is here described, and it is for such that I have found it so successful.

One experience by no means proves a rule; but it is a typical one.

The habit of daily bathing and washing in various forms demands a paragraph. I shall presume that most, if not all, octogenarians have passed the age at which the early morning cold bath can be enjoyed all the year round. For all general purposes of bathing in the bedroom, a fairly deep and capacious hip-bath is, I think, the best form. This, in cold weather, should be filled with water overnight, and remain in the bedroom to acquire its temperature. Then the head should be thoroughly sluiced on first rising, while kneeling down before it, not *stooping* over the bath. This is a refreshing exercise before dressing, and should be followed by a dry rub

Special notes on bathing.

Morning cold bath for head.

all over. Then, say twice a week, for the last-named dry rubbing may be substituted friction over the whole body with a towel wrung out of hot water once or twice; or by taking a hip-bath at 100° or 102° for five minutes with a good sponging all over; if in winter, of course, before a fire.

The hot-"towel bath."

Then, once a week, or ten days at least, a hot bath should be taken, if there is one closely adjoining the bedroom; if not, it can be easily managed in the hip-bath described. Respecting this procedure, I have to recommend a plan adopted by me during the later years of my life with very useful results. It should be remembered that the skin always tends to become drier and harsher in advanced age, and therefore acts less freely as an excreting organ, which it is—a large and very important one. The true skin, indeed, is largely made up of minute capillary blood-vessels which lie closely beneath the surface of the dry cuticle. These gradually become diminished, and the

Hot baths.

The skin in old age becomes dry, and less active.

circulation through them less active; a condition partially remedied by daily exercise, alluded to above (p. 105). The bath commencing say at 99° should gradually be brought up to 104° or 105°, for two, three, or four minutes, as advised at p. 100.

The bath to be raised to high temperature.

The skin becomes more or less reddened, and a very pleasurable sense of comfort is produced by the augmented circulation, set up through the entire surface. Soap should now be freely used to every part of it, aided by a soft flesh-brush, and should be washed off with water of the same high temperature. Then leaving the bath, the surface of the body should be well rubbed and dried with a large sheet of thick white towelling which completely covers it. When this is accomplished, the bather should now thoroughly rub into every part of the surface of the body, using the palm of the hand for the purpose, some pure olive oil (salad oil) say a teaspoonful at a time, especially into those regions where the skin is drier and thicker than the rest, as on the

Oil applied to entire surface

outer sides of the thighs and hips. An ounce (two tablespoonfuls) at least should be thus employed. The ancient Romans who spent so much time in the hot bath as a luxury, well knew the value of applying oil afterwards to replace the loss of the natural secretion of the skin occasioned by prolonged immersion in hot water, and used it largely for the purpose. The natural supply of moisture during the prime of life is gradually diminished by age; but a greatly improved condition of the skin may be secured by the proceeding described. Under such treatment it becomes supple and healthy, and at the close of the performance some five minutes should be devoted to gentle calisthenic exercises, to bring into action as far as possible all the muscles of the body.

greatly improves the condition of the skin.

There is another mode of using hot water, an exceedingly valuable one, which must be mentioned here. It is the habit of taking a hot foot-bath every night before going to bed, for about

The nightly use of the foot-bath.

ten or twelve minutes as hot as it can be borne. I have done this for thirty years, no matter how late the hour at which social or professional engagements have delayed my return home. Indeed, the more prolonged or the more engrossing these have been, the more need is there for the hot foot-bath. The effect of this on the feet, which should be immersed over the ankle, is to fill their vessels with blood—rendered apparent by their deep red colour—and this affords relief, by withdrawing it from the brain. Especially after intellectual activity resulting from public life, etc., as above referred to, also after prolonged study or literary labour at night, the tranquillising effect on the nervous system is very remarkable, and quiet sleep is promoted. Let the highest temperature which can be borne be maintained for at least ten minutes by repeated small additions from the hot-water can close at hand. Probably, at first, 106° or 108° may be the limit of endurance. From long habitude, I use it at 108° or 110°. A brief

Why it is valuable.

wash with soap may be made at finishing before well rubbing dry. A secondary advantage of the practice advised is that the condition of the feet will become as good as that of the hands; and if boots of proper form are worn, *i.e.* as wide as the foot and not pointed, each toe will be separate and mobile as it should be, not overlapping and deformed; and half-hose made with separate digits for each toe, or at least like mittens, with one compartment for the great toe may be worn with advantage as my long experience can testify.

Another advantage.

Turkish baths should be named. No doubt these are very serviceable to many people during the prime of life and afterwards; with some, however, they disagree, producing headaches, etc. The experience of each individual must, as in many other things, determine this question. It does not follow that what is good for one is always good for all at every age. In advanced age I think they are generally unadvisable; or, at all events, the highest

Turkish baths.

temperatures should be avoided. If doubt exists at any period of life, in relation to the question, a good medical adviser should be requested to make a general examination of the heart, nervous centres, etc., and his opinion should decide it.

I have still another bath to name, which I term "The Air-bath." With our usual habits of life, the skin is never uncovered or exposed to the surrounding air, except for a minute or two when taking water-baths; hence it becomes soft and flabby, loses its healthy surface, and more or less of its ability to resist cold, especially what is called "catching cold." It is liable, particularly in hot summer weather, to be affected by a slight, red, irritating rash, it may be, a modification of what is known as "prickly heat." In order to avoid this condition, and certainly to remedy it if it occurs, I know nothing better than exposing the surface of the body to the air of the bedroom, with an open window, for half an hour, especially in full sunlight. Much of this period,

The air-bath

however, may be occupied in this condition for toilet purposes, such as shaving, if this practice is followed—sad loss of time as it is, especially for men above eighty, who should economise all that remains to them—moreover, all ordinary washing and general toilet proceedings can be nearly completed, except dressing; while a walk about the room is also desirable for the purpose of meeting moving currents of air, and in this way the full half-hour may be expended. After a month or two of this experience, the skin becomes firm and healthy. No rough towelling is admissible now, if the skin has been irritable, although desirable after bathing in the cold season. This is, of course, what younger men enjoy after a summer sea bath on the shore; in either case it is delightful and invigorating in every way.*

One more hint of the same kind. During

* A simple and admirable recipe for itching of the skin, when no very obvious rash is visible, is made by mixing two parts of salad oil with two of genuine eau-de-Cologne. They do not blend, but are well shaken before use, and then well rubbed in with the palm of the hand.

the summer months, it is a good habit to walk when in the country, or in the shady parts of our London parks, with the head uncovered, carrying our summer headgear, whatever it may be, by hand. I have done this for a good many years, and for several have not had a "cold in my head," which formerly very frequently occurred. No one catches cold by exposure of the hands or the forearms to the air, simply because the skin has thus become proof against it. The practice is well illustrated by the Blue Coat School boys, who wear no caps, and are notoriously free from colds in the head. The exposure, moreover, promotes the growth and healthy condition of the hair. The practice of sitting indoors with a hat on for hours together, frequently adopted by men in clubs, is a great error.

The hat to be dispensed with when possible.

I have more than once incidentally referred to the presence of a fire in the bedroom. The subject of temperature within a house, throughout its

Indoor warmth.

various apartments, is an important one. No modern house, even of eight or ten rooms, should be constructed now without an apparatus in the basement for supplying heated air during the long English winter, or cold season, which often extends from November to March, or April inclusive—not less than six months, at all events. My experience of such supply has been gained when visiting hotels abroad in the winter, where an apparatus has existed in each bedroom, by which its occupant could obtain this supply when desired. Hitherto, for the most part in this country, the necessary heat has been obtainable chiefly by employing gas fires in all the bedrooms, where a good draught exists, or is provided for, adequate to remove the products of combustion by the chimney. These, doubtless, greatly diminish dirt, dust, and labour, necessarily occasioned by the transit of coals and removal of ashes, etc., connected with open coal fires.

Supply of hot air.

Gas fires very useful in bedrooms and elsewhere.

The common habit of leaving, on a cold

winter's evening, the sitting-room, where a large open fire has been enjoyed by a family group seated around it, to get thoroughly warmed before retiring to unwarmed bedrooms, to spend a long night in an atmosphere often 20° or 25° under that left below, is a flagrant error; a room in which no one would spend more time than was absolutely necessary during the day. The effect of such changes of temperature, incurred by leaving the house to go abroad during the day, is provided for by active exercise and by the widely different condition of the body, when it is supported every few hours by hot food and liquids, which maintain its natural temperature, besides the warmth of fires in every inhabited room.

Cold bedrooms in winter should be avoided.

While writing this, accidental circumstances have brought to my knowledge a new and greatly improved system of heating every part of a house, from the furnace below, to the top-most floor. It possesses the

A recently patented system to remedy this.

following special advantages over the methods referred to above. 1. The air is introduced from a pure source outside the house; and, if necessary, as in a crowded city, can be deprived of the blacks and dust it contains. 2. The air is conveyed by earthenware (sanitary) tubes to every spot required. 3. The heated, and therefore dried, air is moistened, either automatically or by hand. 4. A constant circulation of the air is produced so as to introduce frequently a fresh supply. No draughts of cold air in winter can occur. These are important points, and the endeavour to meet them has given work to many inventors, not a few of whom have succeeded in providing an adequate system of circulation and radiation.

Hints on self-command.

I cannot close my subject without a remark or two respecting the supreme necessity in advancing years, for firm determination to resist needless excitement, from emotional causes of all kinds. If habits of self-command in respect to diet and exciting drinks

have been steadily cultivated, it is probable that a due control of temper, and of the passions, and the avoidance of needless sources of worry or anxiety, should come to be regarded, not only as one of the main objects of life at this period, but also, as an attainable one to a great extent — the first discipline having been useful in training the will to exercise restraint and self-denial. Each period of man's personal history brings its own appropriate duties and enjoyments. By no means the least of those which accompany old age is a satisfactory sense of the absence of desire for pursuits, which there is now little inducement, or perhaps, ability, to cultivate.

Hints relative to opinion.

Again, men's opinions are apt to become more or less fixed, as experience increases and habits of thought are formed. It is undesirable to assert these too strongly in the form of advice, much less to endeavour to impose them on our children, whose ways are, naturally, not as our ways. Indeed, sound and wise as

our advice to young people may be, great allowance should be made for the fact that they must, will, and even ought, within certain limits, to deal in their own way with the incidents they encounter in the early stages of life's journey, and learn by their own experience—as we ourselves did—paying, however, sometimes, rather dearly for their lessons, perhaps.

But it is our duty to keep our own knowledge, as far as possible, abreast of the age; especially to be interested in modern scientific discovery; in the advance of general knowledge, and in the modifications, not only respecting the varied resources of daily life, but in matters of thought—and even as to old and long-respected beliefs—which have to be accepted as the result. Truth comes from the future, far more than from the past. It was well and truly said by Hobbes, respecting the extreme reverence paid by mankind everywhere to ancient beliefs, "If we are to be guided by antiquity, the present age is the most ancient—that is,

An open mind.

more ancient than any preceding, older in experience, inheriting all the wisdom of the past." *

And here is the privilege which the old enjoy—to sit quietly, and survey intelligently the world's progress.

Happy are they who, having long maintained temperance in all things, preserve fair health, and attain a ripe old age, enabling them to survey the vast field of natural phenomena with growing interest, attracted by each new discovery, preserving an open mind, and ready to utilise any that conduces to man's well-being.

Moderation in all things is the "tempo" which governs life, in all the variations of the delightful theme, when rightly and intelligently played.

* From the close of "The Leviathan."

APPENDIX

Sugar in relation to diet—Increased use of sugar—Two forms of sugar—Digestion of sugar—Sugar and obesity—Sugar a valuable food.

EVER since the first appearance of this little book I have continually received various communications from unknown correspondents, offering suggestions, criticisms, etc., and among these, a question has been raised respecting the value of sugar in relation to diet, which being a matter of much importance, requires special consideration.

A correspondent states that the opinions prevalent among society at large are extremely varied, and are habitually expressed with apparently more emphasis than intelligence. There is a large party, he states, who regard sugar as injurious in every form, and who maintain, with a fervour almost equal to that which

Sugar in relation to diet.

distinguishes political controversy, its dietetic use as the cause of much evil; believing it to give rise to "gout," "rheumatism," and other evils among those who consume it habitually.

I shall therefore offer a few remarks respecting sugar, and a true estimate of its value as an article of diet, according to the highest authorities of the present day—premising of course that there are some few idiosyncrasies, as in all matters of diet which appear to be exceptional, but that the facts and principles adduced here are correct and applicable to people generally.

I shall commence by remarking that the use of sugar as food has enormously increased in quantity during the last few years. Compared with the present price it was a very costly article at the commencement of the nineteenth century, and was very little used by the poor, being a luxury almost beyond their reach. At the present time it is one of the cheapest forms of food, and its use

Increased use of sugar.

has become almost universal, the actual amount now consumed annually by the population of Great Britain being no less than 80 lbs. per head.

Speaking technically, there are two forms of sugar used for diet: the first are the "sucroses," furnished by cane sugar, beet-root sugar, milk sugar, besides one or two others; the second, the "glucoses," or grape sugar, the sugar in other sweet plants and fruits, and honey. Two forms of sugar.

Cane sugar in its raw form is too well known to need description. When refined it forms what is known as loaf sugar, which is, perhaps, the most perfect form of that agreeable carbo-hydrate. A much larger proportion of this is furnished by the juice of the beetroot than by that of the cane. Milk sugar, or lactose, has no sweetening property, but being the carbo-hydrate of milk is very desirable as a form of nourishing food for dyspeptic patients requiring to be limited to "a milk diet," because they are unable to consume any cane sugar without setting up fermenta-

tion, and suffering great discomfort; nor indeed can they take any other food with such good result as that named, for a certain period of time.

Digestion of sugar.

All cane and beet-root sugars are rendered digestible in health by a process they undergo in the stomach and allied organs, in which they are converted into "glucose;" the same form as that which we have already seen exists in grapes and other ripe sweet fruits. Most persons with ordinary digestion can take sugar with advantage, provided they take it in moderate quantity and well diluted, say two or three large lumps in a breakfast-cup of tea.

Sugar and obesity.

Those who have a strong tendency to obesity will generally be wise in dispensing with both sugar and milk in any but moderate quantities.

A valuable food.

It is scarcely sufficiently known that sugar is a very valuable food where much muscular exercise is taken and much bodily labour performed. Especially in adults who are becoming exhausted

with labour, sugar may be taken largely, with the effect of rapidly affording a fresh supply of power. On the other hand, it agrees well with children, and is one of the best and most palatable sources of food for them, taken under the rules above given, chiefly relating to its moderate dilution.

It thus may be inferred that healthy persons, not suffering from indigestion or obesity, may generally use sugar in a moderate quantity with advantage.

INDEX

Notes.

Notes.